

Version With Markings to Show Changes Made

1. (Thrice Amended) A method suitable for facilitating disease diagnosis, the method comprising the steps of:

exposing cells of a patient, suspected of having a disease for which chromosome damage is diagnostic, to a chromosome damaging agent selected to damage chromosomes within the nuclei of the cells to produce chromosome fragments having broken ends;

marking at least some of the [chromosome fragments] broken ends; and

analyzing the marked [chromosome fragments] broken ends within interphase cell nuclei to determine whether the cells were affected by the disease, wherein said analyzing includes comparing information obtained from cells of a patient suspected of having a disease to information obtained from cells of suspected healthy patients.

8. (Amended) The method suitable for facilitating disease diagnosis of claim 1, wherein said marking step includes adding fluorescent material to at least some of the chromosome [fragments] broken ends.

9. (Amended) The method suitable for facilitating disease diagnosis of claim 1, wherein said marking step includes adding dNTP to at least a portion of the [chromosome fragments] broken ends and exposing the [fragments] broken ends to fluoresceinated material.

10. (Amended) The method suitable for facilitating disease diagnosis of claim 1, wherein said analyzing step includes automatically measuring a number of marked chromosome [fragments] broken ends.

11. (Thrice Amended) A method for analyzing an effect of disease on cells, the method comprising the steps of:

preparing cells suspected of being affected by a disease for which chromosome damage is diagnostic by exposing the cells to a chromosome breakage agent to form chromosome pieces having ends within nuclei of the cells;

marking at least a portion of the [chromosome pieces] ends within interphase nuclei;

counting a number of marked [chromosome pieces] ends to analyze the effect of the disease on cells; and

comparing said number of marked [chromosome pieces] ends to information obtained from a control group.

16. (Thrice Amended) A method suitable for facilitating diagnosis of Alzheimer's disease, the method comprising the steps of:

exposing cells thought to be affected by Alzheimer's disease to a chromosome damaging agent;

exposing the cells thought to be affected by Alzheimer's disease to a chromosome breakage agent to form chromosome pieces having ends;

marking at least some of the [chromosome pieces] ends within interphase nuclei;

measuring an amount of marked chromosome [pieces] ends; and

comparing a number of marked chromosome [pieces] ends present in the cells thought to be affected by Alzheimer's disease to information relating to a control group.

17. (Thrice Amended) The method suitable for facilitating diagnosis of Alzheimer's disease of claim 16, the method further comprising the steps of:

exposing cells thought to be unaffected by Alzheimer's disease to a chromosome damaging agent;

exposing the cells thought to be unaffected by Alzheimer's disease to a chromosome breakage agent to form chromosome pieces having ends;

marking at least some of the chromosome [pieces] ends of cells thought to be unaffected by Alzheimer's disease;

measuring an amount of marked chromosome [pieces] ends present within interphase nuclei thought to be unaffected by disease; and

determining diagnosis from said comparing step.